

U.S. Department of the Interior  
Bureau of Land Management  
Little Snake Field Office  
455 Emerson Street  
Craig, CO 81625-1129

## ENVIRONMENTAL ASSESSMENT

**EA-NUMBER:** DOI-BLM-CO-N010-2010-0062 EA

**CASEFILE/PROJECT NUMBER/LEASE NUMBER:** COC074362

**PROJECT NAME:** Trout Creek Water Storage Reservoir Right-of-Way

**LEGAL DESCRIPTION:** Lot 13, Sec. 6, T5N, R85W, 6<sup>th</sup> PM, Routt County, Colorado

**APPLICANT:** Twentymile Coal, LLC

**PLAN CONFORMANCE REVIEW:** The proposed action is subject to the following plan:

Name of Plans: Little Snake Resource Management Plan and Record of Decision (ROD)

Date(s) Approved: April 26, 1989

Remarks: The proposed water storage reservoir would be located within Management Unit 1 (Little Snake Resource Management Plan). The management objectives for Unit 1 are to realize the potential for development of coal, oil, and gas resources. Realty actions such as rights-of-way, leases and permits can be allowed on public land consistent with the management objectives for this unit.

Results: The proposed action has been reviewed for conformance with this plan (43 CFR 1610.5, BLM 1617.3). The proposed action is in conformance with the objectives for this management unit.

**NEED FOR PROPOSED ACTION:** The purpose of the proposed reservoir is to allow storage of water for fish propagation, industrial use in mineral processing, and hydroelectric power generation.

**PUBLIC SCOPING PROCESS:** The action in this EA is included in the NEPA log posted on the LSFO web site: [http://www.blm.gov/co/st/en/BLM\\_Information/nepa/lso.html](http://www.blm.gov/co/st/en/BLM_Information/nepa/lso.html).

**DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:** The proposed action is to issue a right-of-way (ROW) grant for a water storage reservoir to Twentymile Coal, LLC (Twentymile). Twentymile filed an application in February 2010, for a ROW (COC074362) in the Trout Creek area. Twentymile is the owner of a water right, Energy Fuels No. 2, which allows the company to develop a reservoir to store water from Middle Creek and Trout Creek in Routt County. An earthen dam would be constructed on private land in Section 6, T5N, R85W and construction would occur over a two year timeframe starting in 2015. Once the dam is completed, it is expected that it could take several years for the reservoir to fill completely with water from the two creeks. The expected final completion of the reservoir is summer of 2017. Timing is an estimate and is based on a 5 year permitting schedule. The resulting reservoir would cover privately owned land primarily, but it would encroach upon and cover approximately 4.3 acres of public land in Lot 13 of Section 6. The intended yearlong uses of the stored water would be for fish propagation, mineral processing, and hydroelectric power generation.

The Energy Fuels No. 2 water right provides for the dam to be 2,100 feet in length and 100 feet in height. Allowed storage rights are 30,000 acre-feet of water. The dam and reservoir would be designed by a professional licensed Engineer in the State of Colorado and would be permitted by the Colorado State Engineer's Office. Twentymile would be responsible for obtaining other required federal, state, or local permits and would coordinate the dam and reservoir construction with the Colorado State Engineer's Office, US Army Corps of Engineers, and the US Fish and Wildlife Service. Within 30 days of completion, Twentymile would submit to the BLM, as-built drawings and a certification of construction verifying that the facility has been constructed (and tested) in accordance with the design, plans, specifications, and applicable laws and regulations.

**NO ACTION ALTERNATIVE:** The right-of-way would not be issued and the water storage reservoir would not be constructed as applied for by Twentymile. A smaller configuration of the reservoir that would not encroach on public land would substantially limit the company's ability to make use of the decreed storage water right. This alternative was eliminated from detailed study.

## **AFFECTED ENVIRONMENT/ENVIRONMENTAL CONSEQUENCES/MITIGATION MEASURES**

### **CRITICAL RESOURCES**

#### **AIR QUALITY**

Affected Environment: There are five federal Class I areas within 100 kilometers of the Little Snake Resource Management Area (LSRMA) boundary, all of which occur in Colorado. There are no federal Class I areas in Utah or Wyoming within 100 km of the LSRMA boundary. There are no non-attainment areas nearby that would be affected by either alternative.

Environmental Consequences, both alternatives: Both the proposed and no action alternatives will have no foreseeable effect on air quality in the short or long term.

Mitigative Measures: None

Name of specialist and date: Emily Spencer, 9/8/10

## **AREA OF CRITICAL ENVIRONMENTAL CONCERN**

Affected Environment: Not Present

Environmental Consequences: Not Applicable

Mitigative Measures: Not Applicable

Name of specialist and date: Shane Dittlinger, 9/08/10

## **CULTURAL RESOURCES**

Affected Environment: Cultural resources, in this region of Colorado, range from late Paleo-Indian to Historic. For a general understanding of the cultural resources in this area of Colorado, see *An Overview of Prehistoric Cultural Resources, Little Snake Resource Area, Northwestern Colorado*, Bureau of Land Management Colorado, Cultural Resources Series, Number 20, *An Isolated Empire, A History of Northwestern Colorado*, Bureau of Land Management Colorado, Cultural Resource Series, Number 2 and *Colorado Prehistory: A Context for the Northern Colorado River Basin*, Colorado Council of Professional Archaeologists.

Environmental Consequences: The proposed project, Creek Water Storage Reservoir Right-of-Way/Trout Creek Parcel, has undergone Class III cultural resource surveys:

Metcalf, Sally

2010 Class III Cultural Resource Inventory of the Twentymile Coal Trout Creek Parcel, Routt County, Colorado.

Reust, Thomas and James A. Lowe

2004 A CLASS III CULTURAL RESOURCE INVENTORY OF THE PROPOSED EMERALD MOUNTAIN LAND EXCHANGE, ROUTT AND MOFFAT COUNTIES, COLORADO. TRC Mariah Associates Inc.

The surveys identified no eligible cultural resources to the National Register of Historic Places. The proposed project may proceed as described with the following mitigative measures in place.

Mitigative Measures:

The following standard stipulations apply for this project:

1. The operator is responsible for informing all persons who are associated with the operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are encountered or uncovered during any project activities, the operator is to immediately stop activities in the immediate vicinity of the find and immediately contact the authorized officer (AO) at (970) 826-5000. Within five working days, the AO will inform the operator as to:

- Whether the materials appear eligible for the National Register of Historic Places;
- The mitigation measures the operator will likely have to undertake before the identified area can be used for project activities again; and
- Pursuant to 43 CFR 10.4(g) (Federal Register Notice, Monday, December 4, 1995, Vol. 60, No. 232) the holder of this authorization must notify the AO, by telephone at (970) 826-5000, and with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

2. If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation costs. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

Name of specialist and date: Ethan Morton 09/10/10

## **ENVIRONMENTAL JUSTICE**

**Affected Environment:** The proposed reservoir would be located in an area of isolated dwellings. Coal mining and ranching are the primary economic activities. The proposed project would occur primarily on privately owned land and would only affect a small parcel of public land.

**Environmental Consequences:** The Proposed Action is not expected to create a disproportionately high or adverse human health impact or environmental effect on minority or low-income populations within the area.

**Mitigative Measures:** None

Name of specialist and date: Barb Blackstun 09/01/10

## **FLOOD PLAINS**

Affected Environment: Approximately 0.2 miles of Trout Creek crosses public lands within the proposed project area. This section of Trout Creek has a 100-year floodplain that rarely floods, meaning that flooding is unlikely but possible under unusual weather conditions (1 to 5% chance of a 100-year flood in any year).

Environmental Consequences, Proposed Action: The proposed project would result in the permanent inundation of Trout Creek and the associated floodplain would no longer exist.

Environmental Consequences, No Action Alternative: The reservoir would not be built and no impacts to the 100-year floodplain would occur.

Mitigative Measures: None

Name of specialist and date: Emily Spencer, 9/7/10

Source: USDA-NRCS Soil Data Viewer version 5.2.0016: <http://soildataviewer.nrcs.usda.gov/>

## **INVASIVE, NONNATIVE SPECIES**

Affected Environment: Invasive species and noxious weeds occur within the affected area. Downy brome (cheatgrass), yellow alyssum, blue mustard and other annual weeds are common along roadsides and on other disturbed areas. Hound's tongue, Canada thistle and several species of biennial thistles are known to occur in this area. Leafy spurge, Dalmatian toadflax and hoary cress (whiteweed) have been found in the vicinity of this project. Other species of noxious weeds can be introduced by vehicle traffic, livestock and wildlife. The BLM collaborates efforts to control weeds and find the best integrated approach to achieve these results.

Environmental Consequences, Proposed Action: The surface disturbing activities and associated traffic involved with constructing the storage reservoir and initial water inundation on the ROW area would create an environment and provide a mode of transport for invasive species and other noxious weeds to become established. Construction equipment and any other vehicles or equipment brought onto the site can introduce weed species. Wind, water, recreation vehicles, livestock and wildlife would also assist with the distribution of weed seed into the newly disturbed areas and the ROW area. The annual invasive weed species (downy brome, yellow alyssum, blue mustard and other annual weeds) occur on adjacent rangelands and would occupy the disturbed areas. The bare soils and the lack of competition from a perennial plant community would allow these weed species to grow unchecked and can affect the establishment of seeded plant species. Establishment of perennial grasses and other seeded plants is expected to provide the necessary control of invasive annual weeds within 2 or 3 years.

The perennial and biennial noxious weeds in the area are less frequently established on the uplands but some potential exists for their establishment in draws and swales or areas that would collect additional water such as the ROW area. The largest concern in the project area would be for these species to become established and not be detected, providing seed which can move onto adjacent rangelands. The applicant would be responsible for controlling invasive and/or noxious weeds that become established within the ROW area. All principles of Integrated Pest Management should be employed to control noxious and invasive weeds on BLM lands.

Environmental Consequences, No Action Alternative: There would be no impacts to invasive species as a result of the proposed action.

Mitigative Measures: None

Name of specialist and date: Christina Rhyne 9/8/10

## **MIGRATORY BIRDS**

Affected Environment: BLM Instruction Memorandum No. 2008-050 provides guidance towards meeting BLM's responsibilities under the Migratory Bird Treaty Act (MBTA) and Executive Order (EO) 13186. The guidance emphasizes management of habitat for species of conservation concern by avoiding or minimizing negative impacts and restoring and enhancing habitat quality. The LSFO provides both foraging and nesting habitat for a variety of migratory bird species. Several species on the USFWS's Birds of Conservation Concern (BCC) List occupy these habitats within the LSFO.

Native plant communities within the project area are comprised of sagebrush stands with an understory of grasses and forbs. A variety of migratory birds may utilize this habitat type during the nesting period (May through July) or during spring and fall migrations. The project area contains potential nesting and/or foraging habitat for the following USFWS 2008 Birds of Conservation Concern: Brewer's sparrow, sage sparrow, sage thrasher and loggerhead shrike.

Environmental Consequences, Proposed Action: The Proposed Action would disturb 4.3 acres of migratory bird habitat. Although this disturbance would be minimal on a landscape level, it would decrease patch size and may degrade habitat on a small scale. Indirectly, habitat effectiveness adjacent to a reservoir would be reduced as a result of noise and human activity. If native vegetation is removed during the nesting season on the project site, there could be negative impacts to migratory bird species through nest destruction or increased stress leading to nest abandonment. Since this will only impact 4.3 acres, the risk of take from this project would be low.

Environmental Consequences, No Action Alternative: The 4.3 acres of migratory bird habitat would not be disturbed.

Mitigative Measures: None.

Name of specialist and date: Gail Martinez, 10/22/10

## **NATIVE AMERICAN RELIGIOUS CONCERNS**

A letter was sent to the Eastern Shoshone, Uinta and Ouray Tribal Council, Southern Ute Tribal Council, Ute Mountain Ute Tribal Council on May 26, 2009. The letter listed the FY2010 projects that the BLM would notify them on and projects that would not require notification. A follow-up phone call was performed on July 26, 2009. No comments were received (letter on file at the Little Snake Field Office). This project requires no additional notification.

Name of specialist and date: Ethan Morton, 9/10/10

## **PRIME & UNIQUE FARMLANDS**

Affected Environment: No federally designated Prime and/or Unique Farmlands are present on public lands within the proposed project area.

Environmental Consequences, both alternatives: None

Mitigation Measures: None

Name of specialist and date: Emily Spencer, 9/7/10

Source: USDA-NRCS Soil Data Viewer version 5.2.0016: <http://soildataviewer.nrcs.usda.gov/>

## **T&E AND SENSITIVE ANIMALS**

Affected Environment: There are no ESA listed or proposed species that inhabit or derive important benefit from the project area. Critical habitat for the razorback sucker, Colorado pikeminnow, bonytail chub and humpback chub is located downstream of the project area.

Habitat for two additional BLM sensitive species, Columbian sharp-tailed grouse and Brewer's sparrow, occur in the project area. Sagebrush stands and mixed mountain shrublands provide habitat for Columbian sharp-tailed grouse. Much of the area is classified as nesting habitat and winter habitat by the CDOW. Two active leks are located within a two mile radius of the proposed reservoir.

Brewer's sparrows are a summer resident in Colorado and nest in sagebrush stands. Nests are constructed in sagebrush and other shrubs in denser patches of shrubs. This species would likely be nesting in the project area from mid-May through mid-July.

Environmental Consequences, Proposed Action:

## *Colorado River Fish*

In January 1988, the Secretary of the Interior and the Governors of Wyoming, Colorado, and Utah signed a Cooperative Agreement to implement the “Recovery Program for Endangered Fish Species in the Upper Colorado River Basin” (Recovery Program). One of the main objectives of the Recovery Program was to identify reasonable and prudent alternatives that would ensure survival and recovery of the listed fish while providing for new water development in the Upper Colorado River Basin. In 1993, the FWS developed an additional Section 7 agreement and the Recovery Action Plan (Plan) which addresses Section 7 consultation on depletion impacts. The Plan establishes a framework for conducting all future Section 7 consultations on depletion impacts related to new projects and those associated with historic projects in the Upper Basin. Procedures outlined in the Section 7 agreement are used in conjunction with the Plan to determine if sufficient progress is being accomplished in the recovery of the endangered fish to allow the Recovery Program to serve as a reasonable and prudent alternative to avoid jeopardy. The Plan was finalized on October 15, 1993, and is reviewed annually. In accordance with the Section 7 agreement, the FWS has agreed to assess impacts of projects that require Section 7 consultation and determine if progress toward recovery has been sufficient for the Recovery Program to serve as a reasonable and prudent alternative. If sufficient progress is being achieved, the FWS will write BO’s that identify activities and accomplishments of the Recovery Program that support it as a reasonable and prudent alternative. The following are excerpts from the Recovery Program that address depletion impacts, Section 7 consultation, and protection of instream flows:

“All future Section 7 consultations completed after approval and implementation of this program will result in a one-time contribution to be paid to the NFWF by water project proponents in the amount of \$10.00 per acre-foot based on the average annual depletion of the project . . . This figure will be adjusted annually for inflation [the current figure is \$18.29/AF] . . . it is necessary to protect and manage sufficient habitat to support self-sustaining populations of these species. One way to accomplish this is to provide long-term protection of the habitat by acquiring or appropriating water rights to ensure instream flows . . . Since this program sets in place a mechanism and a commitment to assure that the instream flows are protected under State law, the FWS will consider these elements under Section 7 consultation as offsetting project depletion impacts.”

Thus, the FWS has determined that project depletion impacts, which the FWS has consistently maintained are likely to jeopardize the listed fishes, can be offset by (a) the water project proponent’s one-time contribution to the Recovery Program in the amount determined by multiplying the total average annual depletion for each project by the depletion charge per acre-foot in effect at the time the payment is made. Fifty percent of the funds collected from the depletion payments will be used for acquisition of water rights to meet the instream flow needs of the endangered fishes; the balance will be used to support other recovery activities for the Colorado River endangered fishes.



Since the proposed action is to issue a right-of-way (ROW) grant for a water storage reservoir to Twentymile Coal, LLC (Twentymile), Section 7 consultation with the USFWS will not be required for the purposes of this document. The proponent is required to conduct Section 7 consultation prior to the construction of the reservoir.

#### *Columbian Sharp-tailed Grouse*

Impacts include, but are not limited to, displacement into less suitable habitat, nest abandonment, destruction of nests and loss of habitat. Other impacts, such as habitat fragmentation and the spread of weedy plants can also degrade habitat. The Proposed Action would alter 4.3 acres of grouse habitat. This disturbance would have minimal impacts to sharp-tailed grouse habitat.

Noise and increased human activity related to construction can disrupt breeding and nesting activities. To prevent significant impacts to greater sage-grouse and Columbian sharp-tailed grouse, construction activities associated with the proposed reservoir should not be permitted from March 1 to June 30. This timing limitation would prevent accidental nest destruction, nest and lek abandonment and displacement into less suitable habitat.

#### *Brewer's Sparrow*

Impacts to Brewer's sparrows are described in the Migratory Bird section of this EA.

Environmental Consequences, No Action Alternative: None

Mitigative Measures: The proponent is required to conduct Section 7 Consultation with the U.S. Fish and Wildlife Service prior to the implementation of the Proposed Action.

Name of specialist and date: Gail Martinez, 10/22/10

### **T&E AND SENSITIVE PLANTS**

Affected Environment: There are no federally listed threatened or endangered or BLM sensitive plant species present on the public land parcel subject to the proposed action.

Environmental Consequences, both alternatives: None

Mitigative Measures: None

Name of specialist and date: Hunter Seim, 9/8/10

### **WASTES, HAZARDOUS OR SOLID**

Affected Environment: The Resource Conservation and Recovery Act (RCRA) of 1976 established a comprehensive program for managing hazardous wastes from the time they are

produced until their disposal. U.S. Environmental Protection Agency (EPA) regulations define solid wastes as any “discarded materials” subject to a number of exclusions. The Comprehensive Environmental Response Compensation and Liability Act (CERCLA) of 1980 regulates mitigation of the release of hazardous substances (spillage, leaking, dumping, accumulation, etc.) or threat of a release of hazardous substances into the environment. Civil and criminal penalties may be imposed if the hazardous waste is not managed in a safe manner and according to regulations. The Colorado Department of Public Health & Environment (CDPHE) administers hazardous waste regulations for oil and gas activities in Colorado.

Environmental Consequences, Proposed Action: The reservoir would fall under environmental regulations that impact disposal practices and impose responsibility and liability for protection of human health and the environment from harmful waste management practices or discharges. The direct impact would be if a solid waste or hazardous material is discarded and contaminates the reservoir or land surface either by solid, semi-solid, liquid, or contained gaseous material. Hazardous, civil, and criminal penalties may be imposed if the waste is not managed in a safe manner, and according to EPA regulations.

Environmental Consequences, No Action Alternative: None

Mitigative Measures: The reservoir would be regulated under the Resource Conservation and Recovery Act (RCRA) Subtitle C regulations, which are extremely stringent, as well as the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) that provides for the definition of hazardous substance, pollutant, and contaminant. The mitigation would include the stringent regulation of waste containment within the project area.

Name of specialist and date: Shawn Wiser, 09/29/10

## **WATER QUALITY - GROUND**

Affected Environment: Northwest Colorado Consultants completed a geotech study for the proposed action area in July 2006. The study indicates groundwater depth levels ranging from 3 to 18 feet.

Environmental Consequences, Proposed Action: In the potential event of reservoir water contamination, the proposed action could have an effect on groundwater quality. If mitigation measures are followed, the potential for contamination would be reduced.

Environmental Consequences, No Action Alternative: None

Mitigative Measures: Twentymile Coal LLC shall submit, for the authorized officer’s review, the designs and plans approved by the Colorado State Engineer, US Army Corps of Engineers, and the US Fish and Wildlife Service prior to beginning construction or other

surface disturbing activity. The authorized officer shall issue a Notice to Proceed (BLM Form 2800-15) upon review of the design and plans.

Name of specialist and date: Marty O'Mara 9/27/10

## **WATER QUALITY - SURFACE**

**Affected Environment:** Maintain stream classifications and water quality standards as designated by the Colorado Department of Public Health and Environment Water Quality Control Commission for Trout Creek (Region 12, Yampa Basin). As of 2010, the section of Trout Creek that runs through public lands within the proposed project area is meeting all designated uses and classifications. There are no impairments or suspected water quality issues. The following classifications must be met for the mainstem of Trout Creek from the headgate of Spruce Hill Ditch to its confluence with Fish Creek:

**Aquatic Life Cold 1:** These are waters that (1) currently are capable of sustaining a wide variety of cold water biota, including sensitive species, or (2) could sustain such biota but for correctable water quality conditions. Waters shall be considered capable of sustaining such biota where physical habitat, water flows or levels, and water quality conditions result in no substantial impairment of the abundance and diversity of species.

**Recreation E:** These surface waters are used for primary contact recreation or have been used for such activities since November 28, 1975.

**Agriculture:** These surface waters are suitable or intended to become suitable for irrigation of crops usually grown in Colorado and which are not hazardous as drinking water for livestock.

**Water Supply (June through February):** These surface waters are suitable or intended to become suitable for potable water supplies. After receiving standard treatment (defined as coagulation, flocculation, sedimentation, filtration, and disinfection with chlorine or its equivalent) these waters will meet Colorado drinking water regulations and any revisions, amendments, or supplements thereto.

**Environmental Consequences, Proposed Action:** The proposed project would result in a private reservoir capable of holding up to 30,000 acre feet of water. Designated uses, classifications, and water quality standards may change to reflect the change in use of the existing water right. The applicant would be responsible for monitoring and compliance with CDPHE regulations.

**Environmental Consequences, No Action Alternative:** The reservoir would not be built and no impacts to existing water quality would occur.

**Mitigative Measures:** None

Name of specialist and date: Emily Spencer, 9/24/10

Reference: Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Commission. 2010. Regulations #33, 37, and 93. <http://www.cdphe.state.co.us/regulations/wqccregs/index.html>

## **WETLANDS/RIPARIAN ZONES**

Affected Environment: Approximately 0.2 miles of Trout Creek crosses public lands within the proposed project area. There are no seeps, springs, or wetlands identified on public lands within the project area.

Environmental Consequences, Proposed Action: The proposed project would permanently inundate this small reach of Trout Creek on public lands, resulting in the loss of riparian form and function for the entire section of Trout Creek that would be flooded.

Environmental Consequences, No Action: The reservoir would not be built and no impacts to the Trout Creek would occur.

Mitigative Measures: None

Name of specialist and date: Emily Spencer, 9/7/10

## **WILD & SCENIC RIVERS**

Affected Environment: Not Present

Environmental Consequences: Not Applicable

Mitigative Measures: Not Applicable

Name of specialist and date: Shane Dittlinger, 09/08/10

## **WSAs, WILDERNESS CHARACTERISTICS**

Affected Environment: Not Present

Environmental Consequences: Not Applicable

Mitigative Measures: Not Applicable

Name of specialist and date: Shane Dittlinger, 9/08/10

## **NON-CRITICAL ELEMENTS**

### **RANGE MANAGEMENT**

Affected Environment: The affected BLM parcel lies within the East Trout Creek Allotment #04173. This allotment is not currently grazed by livestock and there are no livestock operators who have the grazing preference for this parcel. It remains open for livestock grazing under the Little Snake RMP.

If managed for livestock grazing, the westerly half of the parcel would provide the greatest amount of forage, due to the productive valley bottom, as well as a source of water in Trout Creek. The easterly portion of the parcel is steep and much less productive. While cattle or sheep could make use of this portion of the parcel, it would be incidental.

Environmental Consequences, Proposed Action: The proposed reservoir would inundate the most productive and useable portions of the parcel for livestock. This would effectively eliminate the parcel as providing a meaningful contribution to a livestock operation. The proposed reservoir would not completely preclude the entire parcel from being grazed, but it would greatly diminish the viability of any livestock operations on the parcel or on adjacent private lands. The parcel is currently not subject to any grazing authorizations and the proposed reservoir would make any future authorizations unlikely, although it would remain open to qualifying applicants.

Environmental Consequences, No Action: While the subject BLM parcel is currently not authorized for livestock grazing, the parcel would remain available for grazing use. While small, in its present state, it remains as a viable source for livestock forage by any livestock operator who would also be grazing adjacent lands, especially along the valley bottom.

Mitigative Measures: None

Name of specialist and date: Hunter Seim 9/8/10

### **REALTY AUTHORIZATIONS**

Affected Environment: ROW grant COC028495 was issued to Union Pacific Railroad on November 20, 1981 for the Haybro-Milner cutoff railroad line across public land in the vicinity of the proposed reservoir. The railroad line was never constructed and this ROW grant expires on November 19, 2011.

ROW grant COC074591 was issued to Yampa Valley Electric (YVEA) on October 1, 2010 for an existing 243.71 foot powerline within the proposed reservoir project area. The powerline was built sometime between 1945 and 1949 according to YVEA records. Twentymile and YVEA have agreed to work cooperatively to realign the powerline authorized in ROW COC074591 located within the reservoir project area.

Environmental Consequences: ROW grant COC028495 for the railroad would not be impacted by the encroachment of the reservoir onto the public land parcel. Maps indicate if the railroad were to be built it would be above the high water mark of the reservoir.

ROW grant COC074591 would be impacted by the reservoir and the powerline must be realigned or removed.

Mitigative Measures: ROW grant COC074591 issued to YVEA will be amended or terminated before the reservoir is constructed.

Name of specialist and date: Barb Blackstun 10/01/10

## **SOILS**

Affected Environment: The portion of public lands that would be inundated by the proposed action is underlain by Menbar loam. These floodplain soils are somewhat poorly drained with moderately high permeability and moderate available water capacity. The soil profile is typically up to 60 inches deep, composed mostly of loam and clay loam.

Environmental Consequences, proposed action: Soils at and below the low water level would be permanently inundated and would soon become hydric soils, defined as soils that form under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. When combined with microbial activity, saturation or inundation in the soil causes a depletion of oxygen. This anaerobiosis promotes biogeochemical processes, such as the accumulation of organic matter and the reduction, translocation, and/or accumulation of iron and other reducible elements. These processes result in characteristic morphologies that persist in the soils during both wet and dry periods (USDA 2004). Soils at or below the high water level may exhibit similar characteristics, depending on reservoir level fluctuation duration and frequency. The proposed reservoir would likely have little to no impact to soils above the high water mark.

Environmental Consequences, no action: The reservoir would not be built and no impacts to soils would occur.

Mitigative Measures: None

Name of specialist and date: Emily Spencer, 9/24/10

Reference: USDA NRCS. 2004. Understanding Soil Risks and Hazards Using Soil Survey to Identify Areas With Risks and Hazards to Human Life and Property. 96 p. <http://soils.usda.gov/use/risks.html>

## UPLAND VEGETATION

Affected Environment: The upland vegetation is primarily located on the steep slopes on the easterly side of the parcel, some of which would be inundated. The upland vegetation consists of a sagebrush-grass plant community. Dominant plants present include big sagebrush (*Artemisia tridentata*), green rabbitbrush (*Chrysothamnus viscidiflorus*), rubber rabbitbrush (*C. nauseous*), lupine (*Lupinus* spp.), serviceberry (*Amelanchier alnifolia*), yarrow (*Achillea millefolium*), longleaf phlox (*Phlox longilobus*), western wheatgrass (*Pascopyrum smithii*), Sandberg bluegrass (*Poa sandbergii*), and prairie junegrass (*Koeleria pyramidata*).

Environmental Consequences, Proposed Action: The majority of the parcel to be inundated would be riparian and meadow/floodplain communities. Upland vegetation between the first 20 feet and 50 feet of the slope on the BLM parcel east of Trout Creek would be inundated at low and high water levels, respectively. This would result in the complete removal of all existing upland species along the lower portion of the slope up to high water level for the life of the reservoir. This removal would be minor within the larger plant community and would not constitute an impact that would adversely affect the remaining upland communities on this parcel.

Environmental Consequences, No Action: None

Mitigative Measures: None

Name of specialist and date: Hunter Seim 9/8/10

## WILDLIFE, AQUATIC

Affected Environment: Trout Creek and the associated riparian vegetation provide potential habitat for small amphibians and other aquatic wildlife. Trout Creek also provides habitat for native fish species.

Environmental Consequences, Proposed Action: The proposed project would permanently inundate Trout Creek, resulting in the loss of existing aquatic wildlife habitat. The proposed project would convert aquatic wildlife habitats from small stream fish species to large reservoir fish species.

Environmental Consequences, No Action: None

Mitigative Measures: None.

Name of specialist and date: Gail Martinez 10/22/10

## WILDLIFE, TERRESTRIAL

Affected Environment: The proposed reservoir would be within habitat for elk, mule deer, black bear and mountain lion. The project area provides suitable habitat for a variety of small mammals, songbirds and reptiles.

Environmental Consequences, Proposed Action: Approximately 4.3 acres of wildlife habitat would be lost as a result of construction of the reservoir. Impacts include, but are not limited to, displacement into less suitable habitat, increased stress and loss of habitat. Surrounding habitat in undisturbed areas should be capable of supporting any displaced wildlife.

Environmental Consequences, No Action: None

Mitigative Measures: None.

Name of specialist and date: Gail Martinez, 10/22/10

**OTHER NON-CRITICAL ELEMENTS:** For the following elements, those brought forward for analysis will be formatted as shown above.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Fluid Minerals	EMO 09/08/10		
Forest Management	BSB 09/01/10		
Hydrology/Ground			See Water Quality - Ground
Hydrology/Surface			See Water Quality - Surface
Range Management			See Range Mgmt
Paleontology		EMO 09/08/10	
Realty Authorizations			See Realty Auth
Recreation/Travel Mgmt		KSD 09/08/10	
Socio-Economics		BSB 09/01/10	
Solid Minerals		JAM 9/8/10	
Visual Resources		KSD 09/08/10	
Wild Horse & Burro Mgmt	BSB 09/01/10		

**CUMULATIVE IMPACTS SUMMARY:** Past and present actions in the area include coal mining, ranching, recreation, wildfire, and dispersed rural residential development. Past coal mining in the area includes the current underground Foidel Creek Mine, the surface Energy Fuels Mine, the surface Seneca Mines and the surface Edna Mine. Sage Creek Mine is proposed to



gradually replace the Foidel Creek Mine. Historically, the surface has been and continues to be ranched; the area also supports wildlife.

The area targeted for the proposed action offers habitat for a variety of wildlife species. Past actions have not impacted wildlife populations on a large scale. The proposed action will convert wildlife habitats from riparian and sagebrush/grass habitats to an aquatic environment. Water will still be available for wildlife and eventually riparian habitat will exist once the reservoir is established and disturbed areas are re-vegetated. The development of the water reservoir along with past and present actions may increase fragmentation of sagebrush/grass habitats, impede upon wildlife travel corridors and convert existing habitat to an aquatic environment.

### **STANDARDS:**

**PLANT AND ANIMAL COMMUNITY (animal) STANDARD:** The project area provides healthy productive wildlife habitat for a variety of species including big game, small mammals, song birds and reptiles. The development of the Proposed Action would result in a loss of approximately 4.3 acres of habitat. Surrounding habitat is sufficient to ensure that populations are not negatively impacted by this project. This standard is currently being met and would continue to be met in the future.

Name of specialist and date: Gail Martinez 10/22/10

**SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (animal) STANDARD:** The Proposed Action would not jeopardize the viability of any special status animal population. With implementation of mitigation measures, the project would have minimal impacts to sensitive species or their habitats. The Proposed Action would not preclude this standard from being met.

Name of specialist and date: Gail Martinez 10/22/10

**PLANT AND ANIMAL COMMUNITY (plant) STANDARD:** The Proposed Action would completely remove all upland plant communities below the expected high water line. This would not impact any plant communities above this line which is roughly the easterly half of the subject parcel. The plant communities that would be unaffected by the proposed reservoir are currently meeting this standard and would continue to do so under the Proposed Action. The No Action Alternative would also meet this standard as no impacts from a reservoir would occur.

Name of specialist and date: Hunter Seim 9/8/10

**SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (plant) STANDARD:** There are no federally listed threatened or endangered or BLM sensitive plant species present on the subject BLM parcel. This standard does not apply.

Name of specialist and date: Hunter Seim 9/8/10

**RIPARIAN SYSTEMS STANDARD:** The small reach of Trout Creek on public lands would be permanently inundated, resulting in the loss of riparian form and function for the entire section of Trout Creek that would be flooded. This standard would not be met under the proposed action.

Name of specialist and date: Emily Spencer, 9/24/10

**WATER QUALITY STANDARD:** The proposed action fundamentally changes the use of water from a naturally occurring lotic system to that of water storage. Designated uses, classifications, and water quality standards may change to reflect the change in use of the existing water right. The applicant would be responsible for monitoring and compliance with CDPHE regulations. It is unknown whether this standard would continue to be met under the proposed action.

Name of specialist and date: Emily Spencer, 9/24/10

**UPLAND SOILS STANDARD:** Soils at or below the high and low water marks would be inundated and not capable of the infiltration and permeability functions that soils exhibit currently. Soils in this area would not meet the standard. Soils above the high water line would likely not be impacted by flooding and would continue to meet this standard.

Name of specialist and date: Emily Spencer, 9/24/10

**PERSONS/AGENCIES CONSULTED:** Uintah and Ouray Tribal Council, Colorado Native American Commission, Colorado State Historic Preservation Office.

**FINDING OF NO SIGNIFICANT IMPACT (FONSI)**  
**DOI-BLM-CO-N010- 2010-0062 EA**

Based on the analysis of potential environmental impacts contained in the EA and all other available information, I have determined that the proposal and the alternatives analyzed do not constitute a major Federal action that would adversely impact the quality of the human environment. Therefore, an EIS is unnecessary and will not be prepared. This determination is based on the following factors:

1. Beneficial, adverse, direct, indirect, and cumulative environmental impacts have been disclosed in the EA. Analysis indicated no significant impacts on society as a whole, the affected region, the affected interests or the locality. The physical and biological effects are limited to the Little Snake Resource Area and adjacent land.
2. Public health and safety would not be adversely impacted. There are no known or anticipated concerns with project waste or hazardous materials.
3. There would be no adverse impacts to regional or local air quality, prime or unique farmlands, known paleontological resources on public land within the area, wetlands, floodplain, areas with unique characteristics, ecologically critical areas or designated Areas of Critical Environmental Concern.
4. There are no highly controversial effects on the environment.
5. There are no effects that are highly uncertain or involve unique or unknown risk. Sufficient information on risk is available based on information in the EA and other past actions of a similar nature.
6. This alternative does not set a precedent for other actions that may be implemented in the future to meet the goals and objectives of adopted Federal, State or local natural resource related plans, policies or programs.
7. No cumulative impacts related to other actions that would have a significant adverse impact were identified or are anticipated.
8. Based on previous and ongoing cultural surveys and through mitigation by avoidance, no adverse impacts to cultural resources were identified or anticipated. There are no known American Indian religious concerns or persons or groups who might be disproportionately and adversely affected as anticipated by the Environmental Justice Policy.
9. No adverse impacts to any threatened or endangered species or their habitat that was determined to be critical under the Endangered Species Act were identified. If, at a future time, there could be the potential for adverse impacts, treatments would be modified or mitigated not to have an adverse effect or new analysis would be conducted.

**FINDING OF NO SIGNIFICANT IMPACT (FONSI)**  
**DOI-BLM-CO-N010- 2010-0062 EA**

10. This alternative is in compliance with relevant Federal, State, and local laws, regulations, and requirements for the protection of the environment.

**DECISION AND RATIONALE:** I have determined that construction of the Trout Creek Water Storage Reservoir in conformance with the approved land use plan. It is my decision to issue the right-of-way grant with the mitigation measures to Twentymile Coal, LLC. The grant is for operation, maintenance, and termination of a reservoir located on public land in Lot 13, Sec. 6, T5N, R85W, 6<sup>th</sup> PM, Routt County, Colorado. The ROW will occupy approximately 4.3 acres and the grant is issued for 20 years with the right of renewal. The ROW is subject to rental pursuant to 43 CFR 2803.1-2. The project will be monitored as stated in the Compliance Plan outlined below.

It is the policy of the Bureau of Land Management to grant R/W to occupy and use public land where such is consistent with resource values, the Bureau's planning system, and local government concerns. To this effect, no conflicts were found; the action does not result in any undue or unnecessary environmental degradation. The action is consistent with the Little Snake Resource Management Plan. The proposed use, as planned and mitigated, is a suitable use of the land, which will not conflict with the present or known future use of the area. The action is consistent with Section 28 of the Mineral Leasing Act of 1920, as amended (30 U.S.C. 185) or Title V of the Federal Land Policy and Management Act of October 21, 1976 (90 Stat. 2776; 43 U.S.C. 1761) and the regulations authorizing use of federal land under 43 CFR 2800.

**MITIGATION MEASURES:** See Exhibit A, Stipulations.

**COMPLIANCE PLAN(S):**

**Compliance Schedule:** Compliance will be conducted during the construction phase and maintenance phase to insure that all terms and conditions specified in the right-of-way grant and stipulations are followed. The reservoir will be on a five-year compliance schedule after completion of the project.

**Monitoring Plan:** The reservoir location will be monitored during the term of the right-of-way for compliance with the grant, stipulations, POD, and pertinent regulations until final abandonment is approved; monitoring will help determine the effectiveness of mitigation and document the need for additional mitigative measures.

**Assignment of Responsibility:** Responsibility for implementation of the compliance schedule and monitoring plan will be assigned to the Realty staff in the Little Snake Field Office. The primary inspector will be the Realty Specialist.

**FINDING OF NO SIGNIFICANT IMPACT (FONSI)**  
DOI-BLM-CO-N010- 2010-0062 EA

**SIGNATURE OF PREPARER:**

**DATE SIGNED:**

**SIGNATURE OF ENVIRONMENTAL REVIEWER:**

**DATE SIGNED:**

**SIGNATURE OF AUTHORIZED OFFICIAL:**

**DATE SIGNED:**

**EXHIBITS: Attachment A, Stipulations**

Exhibit A  
Stipulations  
COC074362  
Trout Creek Water Storage Reservoir

1. The holder shall construct, operate, and maintain the facilities, improvements, and structures within the permit in strict conformity with the plan(s) of development identified with the application. Any relocation, additional construction, or use that is not in accord with the approved plan(s) of development, shall not be initiated without the prior written approval of the authorized officer. A copy of the complete permit, including all stipulations and approved plan(s) of development, shall be made available on the permit area during construction, operation, and termination to the authorized officer. Noncompliance with the above will be grounds for an immediate temporary suspension of activities if it constitutes a threat to public health and safety or the environment.
2. The holder shall submit, for the authorized officer's review, the designs and plans approved by the Colorado State Engineer (or other appropriate state authority), the US Army Corps of Engineers, and the US Fish and Wildlife Service, prior to beginning construction or other surface disturbing activity. The holder shall not initiate any construction, including recreation facilities or other surface disturbing activities on the right-of-way without the prior written authorization of the authorized officer. Such authorization shall be a written notice to proceed (BLM Form 2800-15) issued by the authorized officer. Any notice to proceed shall authorize construction or use only as therein expressly stated and only for the particular location or use therein described.
3. The Little Snake Field Office will be given 48-hour notification prior to commencing construction and/or reclamation work. Contact the Little Snake Field Office (970) 826-5000 to report when work will commence.
4. Any cultural and/or paleontological (fossil) resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and the authorized officer will make any decision as to proper mitigation measures after consulting with the holder.
5. The operator is responsible for informing all persons who are associated with the operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are encountered or uncovered during any project activities, the operator is to immediately stop activities in the immediate vicinity of the find and immediately contact the authorized officer (AO) (970) 826-5087. Within five working days the AO will inform the operator as to:
  - whether the materials appear eligible for the National Register of Historic Places;
  - the mitigation measures the operator will likely have to undertake before the identified area can be used for project activities again and;
  - If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation costs. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.
6. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the authorized officer, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.
7. The grant does not relieve you of your responsibility to obtain other required federal, state, or local permits.
8. The holder(s) shall comply with all applicable Federal laws and regulations existing or hereafter enacted or

promulgated. In any event, the holder(s) shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

9. The holder of Right-of-Way No. COC074362 agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act of 1976, 42 U.S.C. 6901, et seq.) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

10. ROW grant COC074591 issued to YVEA will be amended or terminated prior to the construction, operation, or maintenance of the dam and reservoir being authorized by this right-of-way grant.

11. The holder shall conduct Section 7 Consultation with the U.S. Fish and Wildlife Service prior to the construction, operation, or maintenance of the dam and reservoir being authorized by this right-of-way grant.

12. Construction sites shall be maintained in a sanitary condition at all times; waste materials at those sites shall be disposed of promptly at an appropriate waste disposal site. 'Waste' means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

13. No hazardous materials/waste or trash shall be disposed of on the public lands. If a release does occur, it shall be reported to the Little Snake Field Office immediately (970) 826-5000. Any spills will be cleaned up to applicable standards.

14. The holder shall conduct all activities associated with the construction, operation, and termination of the right-of-way within the authorized limits of the right-of-way.

15. The holder shall protect all survey monuments found within the right-of-way. Survey monuments include, but are not limited to, General Land Office and Bureau of Land Management Cadastral Survey Corners, reference corners, witness points, U.S. Coastal and Geodetic benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. In the event of obliteration or disturbance of any of the above, the holder shall immediately report the incident, in writing, to the authorized officer and the respective installing authority if known. Where General Land Office or Bureau of Land Management right-of-way monuments or references are obliterated during operations, the holder shall secure the services of a registered land surveyor or a Bureau cadastral surveyor to restore the disturbed monuments and references using surveying procedures found in the Manual of Surveying Instructions for the Survey of the Public Lands in the United States, latest edition. The holder shall record such survey in the appropriate county and send a copy to the authorized officer. If the Bureau cadastral surveyors or other Federal surveyors are used to restore the disturbed survey monument, the holder shall be responsible for the survey cost.

16. The holder shall comply with the construction practices and mitigating measures established by 33 CFR 323.4, which sets forth the parameters of the "nationwide permit" required by Section 404 of the Clean Water Act. If the proposed action exceeds the parameters of the nationwide permit, the holder shall obtain an individual permit from the appropriate office of the Army Corps of Engineers and provide the authorized officer with a copy of same. Failure to comply with this requirement shall be cause for suspension or termination of this right-of-way grant.

17. Within 30 days of completion, the holder will submit to the authorized officer, as-built drawings and a certification of construction verifying that the facility has been constructed (and tested) in accordance with the design, plans, specifications, and applicable laws and regulations.

18. The United States, its officers and employees shall be held harmless from and indemnified against any damage, injury, or liability resulting from the construction, operation, or maintenance of the dam and reservoir being authorized by this right-of-way grant; including but not limited to any liability which the United States may have as owner of the land which is the subject of the right-of-way grant.

19. Utilize the "One Call" system to locate and stake the centerline and limits of all underground facilities in the area of proposed excavations.

20. Provide 48 hour notification to the owner/operator of facilities prior to performing any work within 10 feet of buried or above ground pipelines.

21. The authorized officer may suspend or terminate this right-of-way grant if the holder is unwilling, unable or has failed to comply with the applicable laws or regulations, or any term condition or stipulation of this grant, or has abandoned the right-of-way. Failure of the holder to use the right-of-way for the purposes authorized for any continuous five-year period shall constitute a presumption of abandonment.

22. The holder will provide the authorized officer with a statement commencing on the fifth year from the date of this right-of-way grant and every five years thereafter, that the holder is using the right-of-way for the purposes authorized herein in accordance with the terms of this grant.

23. Control of noxious weeds will be required through successful vegetation establishment and/or herbicide application. It is the responsibility of the lease operator to insure compliance with all local, state, and federal laws and regulations, as well as labeling directions specific to the use of any given herbicide.

24. A Pesticide Use Proposal (PUP) will be approved prior to application of herbicides and/or other pesticides on Federal surface; contact the Little Snake Field Office to obtain a PUP form to request this authorization. Submit the PUP two (2) months in advance of planned application. In the event you elect to apply herbicide or other pesticide as described and authorized on the approved PUP, you must report this use within 24 hours on Bureau of Land Management form titled Pesticide Application Record.

25. RECLAMATION:

The holder is required to use the reclamation practices necessary to reclaim all disturbed areas. Reclamation will ensure surface and subsurface stability, growth of self-generating, permanent, vegetative cover and compatibility with post land use. The vegetation will be diverse and of the same seasonal growth as adjoining vegetation. Post land use will be determined by the authorized officer but normally will be the same as adjoining uses.

Reclamation practices which must be applied or accomplished are: re-grading to the approximate original contour, effectively controlling noxious weeds, separating, storing and protecting topsoil for redistribution during final abandonment, seeding and controlling erosion. If topsoil is not present, or quantities are insufficient to achieve reclamation goals, a suitable plant growth media will be separated, stored and protected for later use. Reclamation will begin with the salvaging of topsoil and continue until the required standards are met. If use of the disturbed area is for a short time (less than one year), practices, which ensure stability, will be used as necessary during the project, and practices needed to achieve final abandonment will commence immediately upon completion of the approved activity use and be completed, with the exception of vegetative establishment, within one year.

If use of the area is for longer periods of time (greater than one year), interim reclamation is required on the unused areas. Interim reclamation of the unused areas will begin immediately upon completion of the permanent facility(s) and be completed, with exception of vegetative establishment, within one year. For both short and long term projects vegetative establishment will be monitored annually. If the desired vegetation is not established by the end of the



second growing season, cultural practices necessary for establishment will be implemented prior to the beginning of the next growing season. Interim reclamation, unless otherwise approved, will require meeting the same standards as final abandonment with the exception of original contour, which may be only partially achievable.

Annual reports consisting of reclamation practices completed and the effectiveness of the reclamation will be provided to the Little Snake Field Office. The first report will be due in January following initiation of reclamation practices and annually thereafter until final abandonment is approved.

There are numerous reclamation practices and techniques that increase the success rate of reclamation and stabilization. With the exception of those stated above, it is the lessee's prerogative to use those (s)he chooses to accomplish the objective. However, it is recommended that state-of-the-art reclamation, stabilization, and management practices be used to achieve the desired objective in a timely and cost-effective manner.

The following definitions and measurements will be used to accomplish and determine if reclamation has been achieved:

Permanent vegetative cover will be accomplished if the basal cover of perennial species, adapted to the area, is at least ninety (90) percent of the basal cover of the undisturbed vegetation of adjoining land or the potential basal cover as defined in the Soil Conservation Service Range Site(s) for the area.

Diverse will be accomplished if at least two (2) perennial genera and three (3) perennial species, adapted to the area, make up the basal cover of the reclaimed area in precipitation zones thirteen (13) inches or less and three (3) perennial genera and four (4) perennial species in precipitation zones greater than thirteen (13) inches. One species will not make up more than fifty (50) percent of the perennial vegetation by basal cover.

Self-regenerating and adapted to the area will be evident if the plant community is in good vigor, there is evidence of successful reproduction, and the species are those commonly used and accepted in the area.

Surface stability will be accomplished if soil movement, as measured by deposits around obstacles, depths of truncated areas, and height of pedestalling, is not greater than three tenths (0.3) of an inch and if erosion channels (rills, gullies, etc.) are less than one (1) inch in depth and at intervals greater than ten (10) feet.

If this standard is not met by the end of the second growing season, two alternatives exist depending on the severity of the erosion:

If erosion were greater than two (2) times the allowable amount, corrective action would have to be taken by the responsible company at that time.

If erosion is less than or equal to two (2) times the allowable amount, and it is determined the erosion occurred during vegetative establishment and the site may become stable, no corrective action would be required at that time. Another check (and measurement) would be performed a year later to determine if stability standards had been met. If the original measurements have not increased by more than the allowed standard, the standard would be considered met. However, if the increase were greater than the allowed standard, corrective action would be required.

Subsurface stability (mass wasting event) is of concern if disturbance has included excavation over four (4) feet in depth and greater than 10,000 square feet in area on slopes thirty five (35) percent and greater, or on any erosion-prone slope (Danforth Hills, Vermillion Bluffs, and badland areas). When these conditions occur, length of liability for reclamation and final abandonment will continue for ten (10) years following re-contouring to original contour or for such time that climatic patterns provide two (2) consecutive years in which measurable precipitation totals at least 120 percent of average from October 1 through September 30, as measured by data averaged from nearby regional weather stations.

The Authorized Officer may waive this stipulation, or portions of it. Such waiver will be documented and justified when not applicable, or when objectives are accomplished through another method.

26. Prior to termination of the right-of-way, the holder shall contact the authorized officer to arrange a pretermination conference. This conference will be held to review the termination provisions of the permit.